BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

School of Energy

2010/11 and 2011/12
Electrical Engineering Capstone Projects

Students	Project	Year	Faculty Advisor	Collaborator(s)
Mark Arnott David Myers	**Unmanned Airborne Photography Platform:** This project involved creation of an unmanned self-controlled helicopter to obtain a photographic record of a pre-specified area.	2010/11	Neil Cox	BCIT Geomatics
Alex Jappy Chris Morrissey William Tigor	**Residential Power Management:** This project involved development of a system to assist people in minimizing their household power bill in the circumstance where the power company varies the power charges over the course of the day or week.	2010/11	Ali Palizban	BCIT AFRESH Home BCIT Technology Centre
Gurpreet Brar Nghia Vu	**Concrete Block Strength Tester:** An estimated 316,000 people died and over one million people were left homeless after a modest-sized (7.0) earthquake in Haiti in 2010. Much of the problem is systemic use of weak concrete blocks for building construction. We are developing a tester that could help to prevent similar such disasters from occurring in the future.	2011/12	Neil Cox	Diane Kennedy (Electrical) Glenn Pellegrin (Electrical) James Booth (Physics) Svetlana Brzev (Civil)
Chystov, Alex Lam, Herman	***Volt VAR Optimization***: Our efficiency in usage of electric power is determined by the "power factor", which depends on the type of load that we connect to the power system. This project investigated the possibility of reducing power consumption by the BCIT campus by actively optimizing the power factor.	2011/12	Ali Palizban	Schneider Electric
Myles Ho Colby Manley Norris Yau	**Cold Atom Trap Laser Control Subsystem:** The laser control subsystem developed in this project is a critical element for a new system to measure extremely low gas pressures. The system uses lasers to "trap" atoms under certain conditions such that they virtually stop moving.	2011/12	James Booth (Physics)	University of BC
Eric Chou Andy Lai Mark Pacholczyk	**Model Predictive Control for Heat Exchange Systems:** Various strategies can be used for control of systems that involve steam and heat exchangers. This project involved evaluation of Model-Predictive control in comparison with more traditional strategies.	2011/12	Glenn Pellegrin	Ali Palizban (Electrical)